

Remarks

The Applicants hereby submit the amended claim 1 which now requires that the heat exchanger be positioned in the gas phase in the reactor as well as not being in direct contact with the liquid phase. The basis of this amendment is found at page 9, lines 14-28, and Figure 2. The Applicants have also submitted the enclosed disclosure statement which discloses the PCT Written Opinion, the Applicants' response to the Written Opinion, and the International Preliminary Examination Report and similar documents from a copending PCT application.

Claims 1 and 3-7 have been rejected under Section 103(a) as being unpatentable over Gibson et al. (WO 00/15646). The Examiner states that this reference discloses polymerization of ethylene in a reactor with a cobalt complex catalyst, a liquid phase, and a gas phase which is heat exchanged. The Examiner incorrectly states that the difference between Gibson and the present invention is only in the difference between oligomerization and polymerization. Claim 2 has been rejected as being obvious in view of Gibson in view of Reagan (EP 0608447). Reagan is said to disclose a complex of chromium or titanium used as a catalyst for oligomerizing ethylene. Both of these rejections are respectfully traversed.

Amended claim 1 requires that the heat exchanger be inside the gas phase in the reactor but not in direct contact with the liquid phase. The only method of heat exchange described in Gibson is found at page 13, lines 10-23. The feed for the reactor gas is used to cool the bed and the hot gas from the reactor may be cooled in the heat exchanger which is positioned outside of the reactor. Clearly, there is no disclosure of a process such as one claimed in the amended claims which requires the presence of a heat exchanger inside the reactor but only in the gas phase. Furthermore, JP 11049804 also does not disclose a heat exchanger inside the reactor. This can be seen from looking at the drawing wherein heat exchanger 5 is clearly not within the reactor.

On page 2 of the Advisory Action, the Examiner states that Gibson's heat exchanger is outside the reactor and cannot be directly contacted with the liquid phase in the reactor. The Applicants assert that the amendment of claim 1 to incorporate the limitation that the heat exchanger be inside the reactor distinguishes Gibson and JP 11049804.

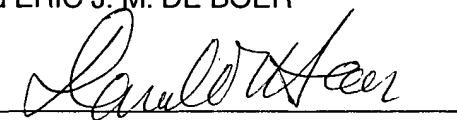
The Applicants have read the Examiner's statements about the disclosure of Gibson with respect to the fluidized gas process described on page 13 of Gibson and respectfully disagrees with the Examiner's statements. The Applicants reiterate the arguments regarding this issue that have been made in previous office actions. Gibson is clearly describing a fluidized gas process. A fluidized gas process is not and cannot be a process which must have both a liquid and a gas

phase as required by the claims of the present invention. For this reason alone, the Applicants assert that all of the claims are patentable.

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